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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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10/516,591

03/05/2005

Fumio Sakiya

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09/07/2007

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EXAMINER

RUDAWITZ, JOSHUA I

ART UNIT

PAPER NUMBER

3652

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DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
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| Office Action Summary | Application No. 10/516,591 | Applicant(s) SAKIYA, FUMIO | |
| | Examiner Joshua I. Rudawitz | Art Unit 3652 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 June 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 7 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
3. The examiner notes that it is not clear as to whether the internal pressure is absolute pressure or gauge pressure; for clarification, an amendment indicating which is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-3, 5-7, 9 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Teruo et al. (JP A 2001-182978) in view of George et al. (U.S. Patent No. 5,507,847).

Teruo et al. (Teruo) discloses a clean transfer device, figure 2, including a casing 8 within which a cassette 1 is opened; a fan/filter unit 11 on the ceiling of the casing; a conveying robot 6 in the casing; a first floor, which is denoted in the figure as a line through the mid-section of the base of the robot, though which

air can pass, as denoted in the figure as arrows, in the casing and horizontally arranged on a lower side of an arm of the conveying robot at a middle height part of the conveying robot; the casing defines a first chamber between the first floor and the fan/ filter unit and a second chamber between the first floor and a bottom part of the casing through which air can pass between the second chamber and an outside of the bottom part of the casing; a door 1a on a wall of the first chamber that moves up and down, a door passage for the door, on the second chamber side and covered with a partition, as denoted in the figure as a vertical line to the left of the door; part of the clean air which flows into the second chamber is discharged to the casing bottom through the door passage; there is a gap between the door frame on the wall of the first chamber and the door; a second floor, shown at 12 in figure 1, provided in the case and in the vicinity of the bottom of the conveying robot, the second floor changes a degree of opening of the casing bottom part with respect to the outside through which air can pass through; the open space in the first floor is not less than 5% and not more than 50% of the total area of the first floor; the open space in the casing bottom is not less than 5% and not more than 70% of the total area of the casing bottom; the internal pressure of the first chamber is higher than the internal pressure of the second chamber, this is inherent due to the flow of clean air into and out of the chambers; the clean transfer device is included in a product manufacturing system 7.

Teruo fails to disclose the filter in the fan/ filter unit removes 99.999% particulates 0.1 μm or above; the blowing speed of the clean air into the first chamber from the fan filter unit is not less than 0.1 m/sec and not more than 0.65 m/sec.

George et al (George) discloses a filter able to remove 99.999% particulates 0.1 μm or above, see abstract; the blowing speed of the clean air into the first chamber from the fan filter unit is 100 ft/min (0.5 m/sec) (claim 14, ln 12-14) in order to allow for extremely clean environments for manufacturing needs (abstract). Therefore, it would have been obvious to a person having ordinary skill in the art at the time of invention to use George's filter and fan speeds in Teruo's clean transfer device in order to allow for extremely clean environments for manufacturing needs.

The Teruo in view of George combination fails to disclose the width of the gap is in the range of 1 mm to 30 mm and the internal pressure of the second chamber is not less than 0.1 Pa. It would have been obvious to a person having ordinary skill in the art at the time of invention to have the gap in the range of 1mm – 30mm and the pressure in the second chamber less than 0.1 Pa, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Art Unit: 3652

6. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Teruo et al. (JP A 2001-182978) in view of George et al. (U.S. Patent No. 5,507,847) in view of Ogawa et al. (U.S. Patent No. 5,975,834).

The Teruo in view of George combination fail to disclose fails to teach a dust prevention seal and a vent hole.

Ogawa et al. (Ogawa) teaches using a magnetic fluid as a dust prevention seal in order to keep the clean room free of additional contaminates from moving mechanical part. Ogawa additionally teaches the robot moving vertically, and therefore as the robot moves either up or down, it is inherent that there is an air, or vent, hole in the bottom, outside the clean room, so as not to compromise the seal with undo pressure from compression of trapped air. Therefore it would have been obvious to a person having ordinary skill in the art, at the time of invention, to include Ogawa's magnet seal in order to keep the clean room free of additional contaminates from moving mechanical part, and the vent hole so as not to compromise the seal with undo pressure from compression of trapped air.

7. Claims 8 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Teruo et al. (JP A 2001-182978) in view of George et al. (U.S. Patent No. 5,507,847) in view of Rapisarda et al. (U.S. Patent Application Publication No. 2002/0108334).

With regards to claim 8:

The Teruo in view of George combination fails to teach the number of times of ventilation.

Rapisarda teaches the number of times of ventilation as 450 per hour, or 7.5 per minute in order to follow the requirement for Class 1 clean rooms. Therefore, it would have been obvious to a person having ordinary skill in the art, at the time of invention, to have the number of times of ventilation follow Rapisarda's teaching of 7.5 per minute in order to follow the requirement for Class 1 clean rooms.

With regards to claim 11:

The Teruo in view of George combination discloses a degree of the opening part is not more than 20% of the wall, see figure 1 (Teruo).

The Teruo in view of George combination fail to disclose an internal pressure in the first chamber is not less than 0.1 Pa. It would have been obvious to a person having ordinary skill in the art at the time of invention to the pressure in the first chamber less than 0.1 Pa, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

The Teruo in view of George combination further fails to teach the number of times of ventilation.

Rapisarda teaches the number of times of ventilation as 450 per hour, or 7.5 per minute in order to follow the requirement for Class 1 clean rooms. Therefore, it would have been obvious to a person having ordinary skill in the art, at the time of invention, to have the number of times of ventilation follow Rapisarda's

teaching of 7.5 per minute in order to follow the requirement for Class 1 clean rooms.

Response to Arguments

8. Applicant's arguments with respect to claims 1-11 have been considered but are moot in view of the new ground(s) of rejection.

9. The Examiner notes that the new grounds of rejection are based on applicant's amendment and the understanding of the claimed invention as intended.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua I. Rudawitz whose telephone number is 571-

272-7856. The examiner can normally be reached on Monday - Friday, 7:30 A.M. - 5:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Saul Rodriguez can be reached on 571-272-7097. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



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